IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

CYBOENERGY, INC., **Plaintiff,** **v.** **ALTENERGY POWER SYSTEM USA, INC.** **Defendant**	**Civil Action No. 6:22-cv-01136-KC** **JURY TRIAL DEMANDED**

PLAINTIFF'S OPENING CLAIM CONSTRUCTION BRIEF

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I. INTRODUCTION

Plaintiff CyboEnergy, Inc. ("CyboEnergy") asserts U.S. Patent Nos. 9,331,489 ("the '489 patent") (Claim 14) and 8,786,133 ("the '133 patent") (Claim 15) (collectively, the "Asserted Patents") against Altenergy Power System USA, Inc. ("Defendant" or "APS")'s respective products as set forth in Plaintiff's infringement contentions served on or about March 16, 2023. Plaintiff provides limited discussion of the '1`33 patent but all terms sought to be construed by Defendant are from claim 14 of the '489 patent.

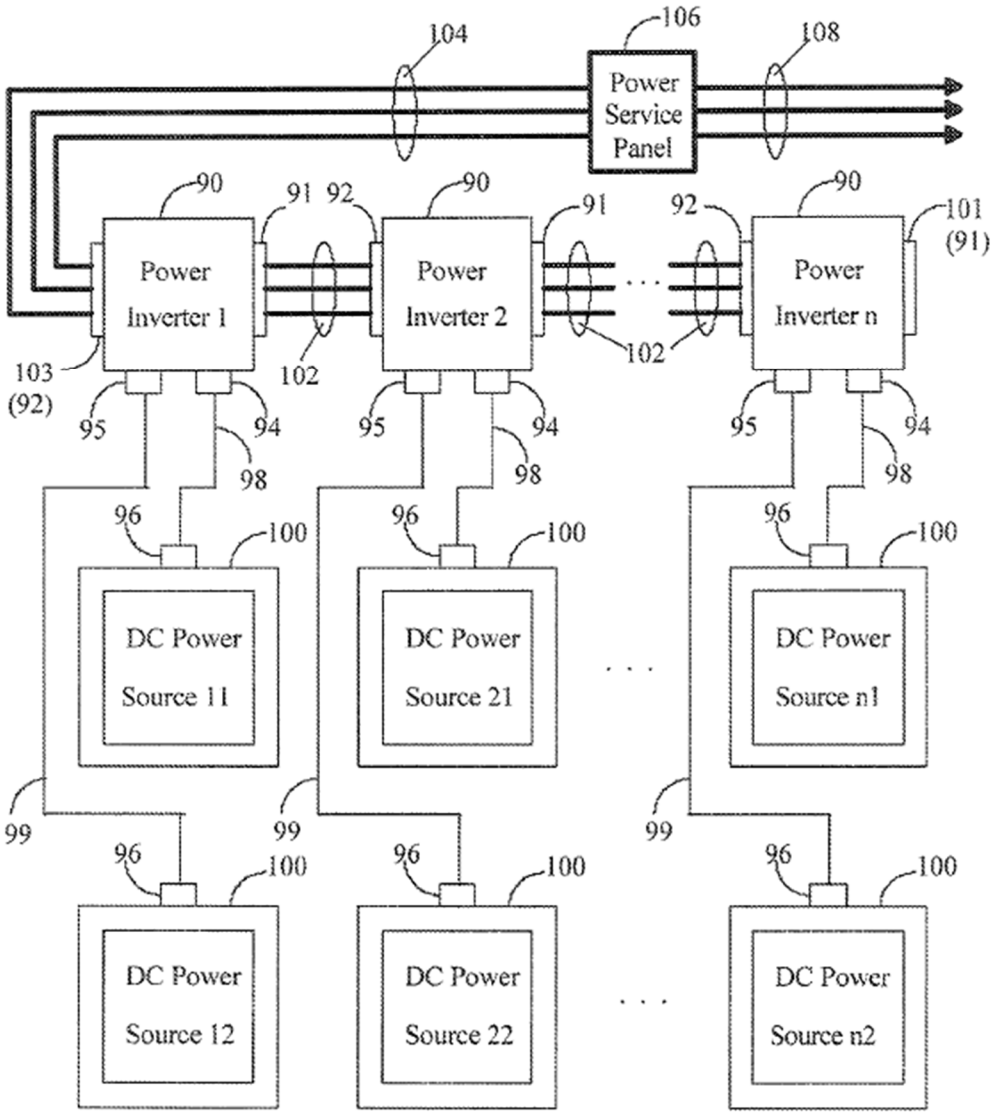
II. BACKGROUND

A. Patents

1. The '133 Patent

Embodiments of the '133 patent relates to systems and methods for "intelligently inverting DC power from DC sources such as photovoltaic (PV)Solar modules to single-phase or three-phase AC power to feed the power grid for electricity generation."[1] Embodiments of the '133 patent allow daisy chaining multiple inverters together where the total power generated is equal to the sum of the AC power supplied by each inverter.[2] Figure 5 provides an illustration of the claimed invention:

[1] Doc. No. 1-3 at Abstract.
[2] *Id.*



[3]

"FIG. 5 is a block diagram illustrating a Smart dual-input power inversion and optimization system where two or more smart power inverters daisy chain, each of which inverts the DC power from two DC sources to single-phase AC power."[4] Each DC power source 100 comprises a DC power connector 96. Each power inverter has two DC power ports 94 and 95 connecting to their corresponding DC sources via DC power cables 98 and 99 Each Smart power inverter comprises

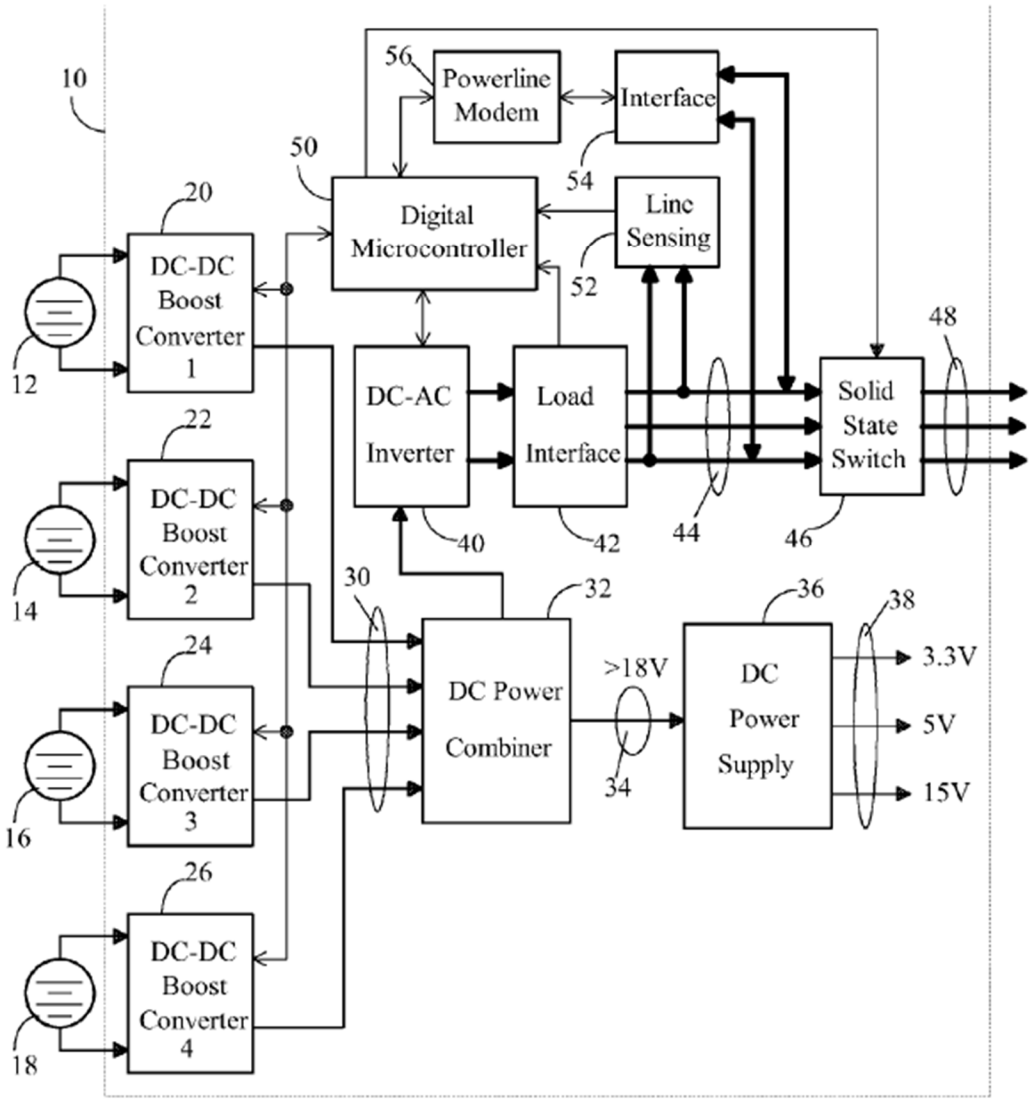
[3] Doc. 1-3 at Fig. 5.
[4] Doc. 1-3 at column 4, line 22-40 ("4:22-40").

an AC power input port 91 and an AC power output port 92. The inverters are capable of daisy chaining, where the first power inverter's AC input port 101 is left open, and the last power inverter's AC output port 103 is connected to a power service panel 106 via the single-phase AC powerline 104. The AC power generated by the system is supplied to power grid 108.

2. The '489 patent

Embodiments of the '489 patent relate to systems and methods that allow "for maximizing power production for Solar power systems when there is low Sunlight during Sunrise, Sunset, clouding, partial shading, and other low irradiance conditions."[5] Embodiments of the invention can work in a low power mode when there is low Sunlight, take power from one Solar panel to Supply DC power to its internal electronic circuits, and also invert the DC power from the remaining connected Solar panels to single phase or three-phase AC power feeding to the electrical grid or powering AC loads. This invention can avoid undesirable shutdowns due to partial shading and allow the inverter to run in power generation mode for a few more hours each day.[6] Figure 5 provides an exemplary embodiment:

[5] Doc. No. 1-4 at Abstract.
[6] *Id.*



[7]

"FIG. 2 is a block diagram illustrating a 4-channel Solar power Mini-Inverter that inverts the DC power from 4 solar panels to single-phase or three-phase AC power being sent to the power grid according to an embodiment of this invention."[8] The 4-channel solar power inverter 10 is connected to 4 solar panels 12, 14, 16, 18 as DC sources. The inverter comprises 4 DC-DC boost

[7] Doc. 1-4 at Fig. 2.
[8] Doc. No. 1-4 at 4:25-28.

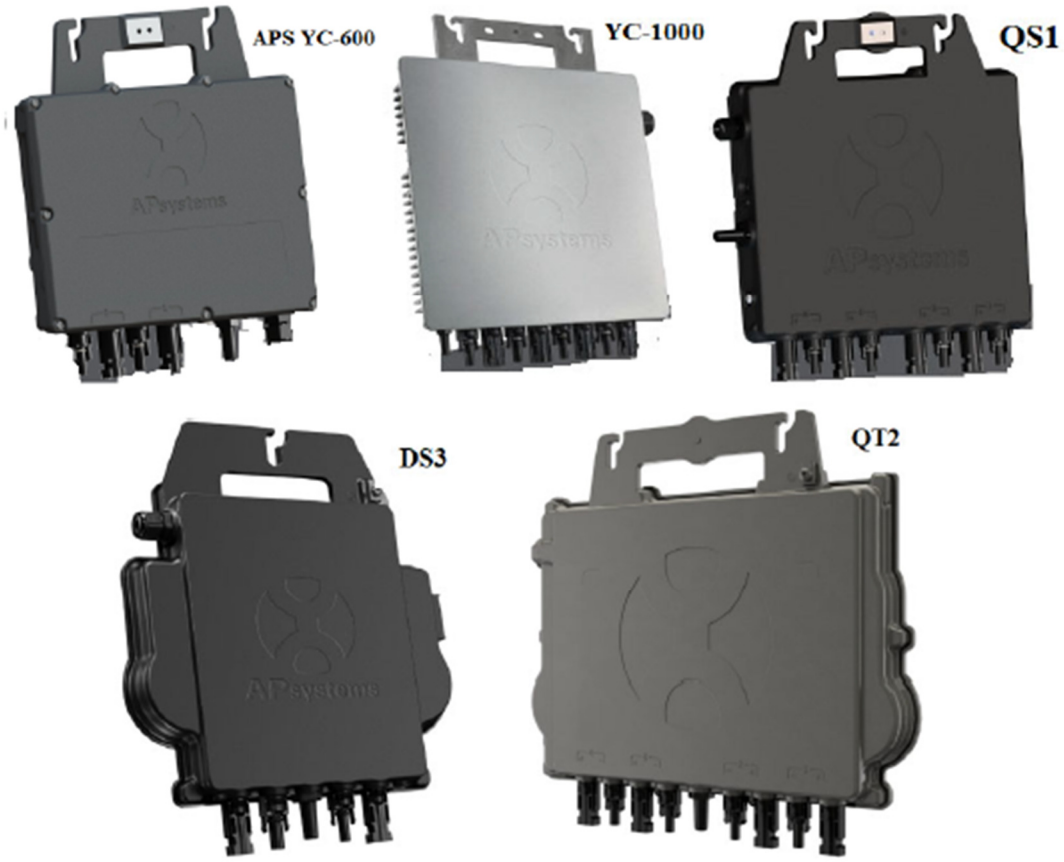
converters 20, 22, 24, 26, a DC power combiner 32, a DC power supply 36, a DC-AC inverter 40, a load interface circuit 42 (an example of a supporting circuit), an internal AC powerline 44, a solid-state switch circuit 46 (an example of a supporting circuit), an external AC powerline 48that connects to the grid, a digital microcontroller 50, a line sensing circuit 52, an interface circuit for powerline communications 54, and a powerline communications Modem 56.

When there is sufficient sunlight, the power from solar panels 12, 14, 16, 18 is delivered to the corresponding DC-DC boost converters 20, 22, 24, 26, respectively. The DC power is then combined in the DC power combiner 32. The total combined DC power is inverted to AC power by the DC-AC inverter 40.

B. The APS Systems

CyboEnergy accuses APS of directly infringing the Asserted Patents through Defendants' products, including, for the '489 patent:

APS and its affiliate companies manufacture and sell solar inverters including, but not limited to: YC-600, YC-1000, and QS1 as shown below:



[1] APsystems Microinverter YC-500A Datasheet
https://usa.apsystems.com/wp-content/uploads/2017/07/APsystems-YC500A-Datasheet-6.13.17.pdf
[2] APsystems Microinverter YC-500A Installation User Manual
https://usa.apsystems.com/wpcontent/uploads/2015/11/APsystems_YC500A_Installation_UserManual-v4.2-11.6.15.pdf
[3] APsystems Microinverter YC-600 Datasheet
https://usa.apsystems.com/wp-content/uploads/2021/11/4271642002_APsystems-Microinverter-YC600-for-North-America-Datasheet_-Rev3.2_2021-11-09.pdf
[4] APsystems Microinverter YC-600 Installation User Manual
https://usa.apsystems.com/wp-content/uploads/2018/08/4271641002_APsystems-Microinverter-YC600%EF%BC%88Y%EF%BC%89-For-USA-User-manual_Rev1.3_2018-8-20.pdf
[5] APsystems Microinverter YC-1000 Datasheet
https://usa.apsystems.com/wp-content/uploads/2021/08/4060840583_APsystems-Microinverter-YC1000-3-for-North-America-Datasheet_Rev3.1_2021-08-09.pdf
[6] APsystems Microinverter YC-1000 Installation User Manual
https://usa.apsystems.com/wp-content/uploads/2018/08/4271641002_APsystems-Microinverter-YC600%EF%BC%88Y%EF%BC%89-For-USA-User-manual_Rev1.3_2018-8-20.pdf
[7] APsystems Microinverter QS1 Datasheet
https://usa.apsystems.com/wp-content/uploads/2021/11/4301105202_APsystems-Microinverter-**QS1-for-North-America-Datasheet_-Rev3.2_2021-11-08.pdf**

II. LEGAL PRINCIPLES

a. General Claim Construction Principles

Determining the proper meaning of patent claims is a question of law that exclusively belongs to the Court.[9] During claim construction, a court first looks at the words of the claims themselves to define the scope of the patented invention.[10] In determining the meaning of the claims, "there is a 'heavy presumption in favor of the ordinary meaning of claim language.'"[11] Ordinary meaning is defined as the "meaning that term would haveto a person of ordinary skill in the art in question at the time of invention."[12]

b. Definiteness Requirement

The United States Supreme Court made it clear in *Nautilus, Inc. v. Biosig Instruments, Inc.*, that words of degree are definite when, read in light of the specification delineating the patent and the prosecution history, the words inform, with reasonable certainty, those skilled in the art about the scope of the invention.[13] "In the face of an allegation of indefiniteness, general principles of claim construction apply."[14] "In that regard, claim construction involves consideration of primarily the intrinsic evidence, viz., the claim language, the specification, and

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[9] *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970-71 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996).
[10] *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (*en banc*).
[11] *Watts v. XLSys., L.P.*, No. 1:06-cv-653-LY, 2008 WL 5731945, at *7 (W.D. Tex. July 1, 2008) (quoting *Johnson Worldwide Assocs. v. Zebco Corp.*, 175 F.3d 985, 989 (Fed. Cir. 1999)); *see also MeetrixIP, LLC v. Citrix Sys., Inc.*, No. 1:16-CV-1033-LY, 2017 WL 5986191, at *2 (W.D. Tex. Dec. 1, 2017) (citing *Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012))("The Federal Circuit has reaffirmed that a departure from the ordinary and customary meaning isthe exception, not the rule.").
[12] *Phillips*, 415 F.3d at 1313; *see also Pisony v. Commando Construction, Inc.*, W-17-CV-00055-ADA, 2019 WL 928406,at *1 (W.D. Tex. Jan. 23, 2019). "[T]he person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Phillips*, 415 F.3d at 1313.
[13] 134 S. Ct. 2120, 2124, 189 L. Ed. 2d 37 (2014).
[14] *Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325, 1332 (Fed. Cir. 2010).

the prosecution history."[15] "When a 'word of degree' is used, the court must determine whether the patent provides 'some standard for measuring that degree.'"[16]

Claim language employing terms of degree has long been found definite where it provided enough certainty to one of skill in the art when read in the context of the invention.[17] A patentee need not define his invention with mathematical precision.[18] Rather, terms of degree are definite if the patent specification provides some standard for measuring that degree, such that the claim language would provide "enough certainty to one of skill in the art when read in the context of the invention"[19] in the form of "objective boundaries."[20] "The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction."[21]

III. LEVEL OF ORDINARY SKILL IN THE ART

A person of ordinary skill in the art ("POSITA") at the time of the filing of the Asserted Patents would have either a Bachelors degree in an engineering discipline (such as Mechanical or Electrical) with 2 years working experience relating to photovoltaic cells and DC-inverters or at least 5 years-work experience relating to relating to photovoltaic cells and DC-inverters.

IV. DISPUTED CLAIM TERMS

A. DC-DC Bost Converter

CyboEnergy's Proposed Construction	APS's Proposed Construction

[15] *Id.*
[16] *Biosig Instruments, Inc. v. Nautilus, Inc.*, 783 F.3d 1374, 1377-78 (Fed. Cir. 2015) , *cert. denied*, 136 S. Ct. 569, 193 L. Ed. 2d 431, c*iting Enzo Biochem*, 599 F.3d at 1332 (internal citation omitted).
[17] *Id.*
[18] *Invitrogen Corp. v. Biocrest Mfg., L.P.*, 424 F.3d 1374, 1384 (Fed. Cir. 2005)
[19] *Biosig Instruments, Inc. v. Nautilus, Inc.*, 783 F.3d 1374, 1378 (Fed. Cir. 2015).
[20] *Interval Licensing*, 766 F.3d at 1371.
[21] *Phillips v. AWH Corp.,* 415 F.3d 1303, 1316 (Fed. Cir. 2005).

Plain and ordinary of a device used to boost DC voltage to a higher voltage	One of a Buck Converter, Boost Converter, Buck- Boost Converter, Super- Lift Luo Converter, or Cascade Boost Converter used to boost the DC input voltage to a higher voltage

The term *DC-DC Boost Converter* is a term well known in the art, is not ambiguous and not defined in the specification. Accordingly, a construction of its plain and ordinary meaning is appropriate.[22] Here, to one of ordinary skill in the art, a boost converted is a device used to boost voltage to a higher voltage. Thus, a DC-DC boost converter, boost DC voltage, resulting in a plain and ordinary meaning of "a device used to boost DC voltage to a higher voltage." Plaintiff is not asking the Court to look outside the specification for a meaning. Plaintiff merely asserts that the claim terms are not specifically defined and not ambiguous and therefore a plain and ordinary meaning is appropriate.[23]

B. Supporting Circuits

CyboEnergy's Proposed Construction	APS's Proposed Construction
Plain and ordinary meaning, no construction necessary	Indefinite

This claim term is not specifically defined and not ambiguous and therefore a plain and ordinary meaning is appropriate.[24] Here, the words are commonly understood. No construction is necessary and the terms are not indefinite.

[22] *Watts v. XLSys., L.P.*, No. 1:06-cv-653-LY, 2008 WL 5731945, at *7 (W.D. Tex. July 1, 2008) (quoting *Johnson Worldwide Assocs.*, 175 F.3d at 989); *see also MeetrixIP, LLC v. Citrix Sys., Inc.*, No. 1:16-CV-1033-LY, 2017 WL 5986191, at *2 (W.D. Tex. Dec. 1, 2017) (citing *Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012))("The Federal Circuit has reaffirmed that a departure from the ordinary and customary meaning isthe exception, not the rule."); ; *see also Pisony v. Commando Construction, Inc.*, W-17-CV-00055-ADA, 2019 WL 928406,at *1 (W.D. Tex. Jan. 23, 2019).

[23] *See, e.g., N. Telecom Ltd.*, 215 F.3d at 1291 *citing Johnson Worldwide Assocs.*, 175 F.3d at 990.

[24] *See, e.g., N. Telecom Ltd.*, 215 F.3d at 1291 *citing Johnson Worldwide Assocs.*, 175 F.3d at 990.

Claim 14 of the '489 patent discussed *supporting circuits* as follows: "at least two DC input channels, each of which comprises a DC-DC boost converter, measurement circuits, supporting circuits, and cables and connectors to connect to a solar panel"[25] Thus, the *measurement circuit* is part of the "at least two DC input channels." And is shown in the figures as circuits supporting the operation of the inverter, at least one additional circuit.[26]

C. Measurement circuits

CyboEnergy's Proposed Construction	APS's Proposed Construction
Plain and ordinary meaning, no construction necessary	Indefinite

This claim term is not specifically defined and not ambiguous and therefore a plain and ordinary meaning is appropriate.[27] Here, the words are commonly understood. No construction is necessary and the terms are not indefinite.

Claim 14 of the '489 patent discussed *measurement circuits* as follows: "at least two DC input channels, each of which comprises a DC-DC boost converter, measurement circuits, supporting circuits, and cables and connectors to connect to a solar panel"[28] Thus, the *measurement circuit* is part of the "at least two DC input channels." And is described as a circuit for measuring DC voltage.[29]

[25] Doc. No. 1-4 at 16:4-7.
[26] Doc. No. 1-4 at 9:15-40 describing Figure 8.
[27] *See, e.g., N. Telecom Ltd.*, 215 F.3d at 1291 *citing Johnson Worldwide Assocs.*, 175 F.3d at 990.
[28] Doc. No. 1-4 at 16:4-7.
[29] Doc. No. 1-4 at 9:15-40 describing Figure 8.

D. "DC power combiner … for combining)

CyboEnergy's Proposed Construction	APS's Proposed Construction
Plain and ordinary meaning, no construction necessary	Indefinite as a 112(6) element with no corresponding structure disclosed. Alternatively, a device capable of combining DC output from all DC-DC boost converters while also selectively passing though power received from one channel while combining power from the other connected channels.

This claim term is not specifically defined and not ambiguous and therefore a plain and ordinary meaning is appropriate.[30] Defendant's proposed construction is more akin to searching for an invalidity position. However, such proposals are not proper during the claim construction process.[31] Further, claim 14 provides detail for the *DC power combiner*: "a DC power combiner connected to said DC-DC boost converters for combining DC output from all DC-DC boost converters…."[32] The claim provides all the description needed. No further construction is necessary.

E. "microcontroller …, arranged to measure input voltage and current to calculate DC input power for each channel"

CyboEnergy's Proposed Construction	APS's Proposed Construction
Plain and ordinary meaning, no construction necessary	Plain and ordinary meaning

[30] *See, e.g., N. Telecom Ltd.*, 215 F.3d at 1291 *citing Johnson Worldwide Assocs.*, 175 F.3d at 990.
[31] *Phillips v. AWH Corp.*, 415 F.3d 1303, 1327 (Fed. Cir. 2005).
[32] Doc. No. 1-4 at 16:11-13.

It appears the parties agree on this term. However, in an abundance of caution, Plaintiff does not believe any of the words of the purported claim term need construction as they are plain and ordinary terms that are readily understood by one of ordinary skill in the art.

F. "constructed to run the power inverter in normal or low power mode based on calculated DC input power"

CyboEnergy's Proposed Construction	APS's Proposed Construction
No construction necessary	Constructed to run the power inverter in normal mode or low power mode when the total power generated by the connected solar panels falls below some threshold.

This claim term is not specifically defined and not ambiguous and therefore a plain and ordinary meaning is appropriate.[33] Defendant's proposed construction completely rewrites the claim, changing the patentees words and adds nothing to assist the jury. Defendant replaces "based on calculated DC input power" with "when the total power generated by the connected solar panels falls below some threshold." There simply is no need to make the change. The term needs no further construction than the term itself. In fact, Defendant's proffered construction requires operation in the normal mode or low power mode *when the total power generated by the connected solar panels falls below some threshold*. However, the claim term only requires that the microcontroller is constructed to run the power inverter in normal mode or low power. Therefore, Defendant's construction adds further requirements.

G. "configured to take DC power from a dedicated input channel and its connected solar panel"

CyboEnergy's Proposed Construction	APS's Proposed Construction

[33] *See, e.g., N. Telecom Ltd.*, 215 F.3d at 1291 *citing Johnson Worldwide Assocs.*, 175 F.3d at 990.

Plain and ordinary meaning	Configured to take DC power from one and only one input channel and its connected solar panel

This claim term is not specifically defined and not ambiguous and therefore a plain and ordinary meaning is appropriate.[34] Defendant's proposed construction rewrite the claim term using words not found in the specification, "one and only one." There is no need to engage in rewriting the claim term as argued by Defendant and add a wholly new word, not found in the specification. These are easily understood words and will not confuse the jury or be capable of multiple constructions.

V. CONCLUSION

Plaintiff respectfully requests the Court adopt its constructions.

Respectfully submitted,

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[34] *See, e.g., N. Telecom Ltd.*, 215 F.3d at 1291 *citing Johnson Worldwide Assocs.*, 175 F.3d at 990.

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing Notice of Acknowledgement has been delivered to all parties registered to receive court notices via the Court's ECF/CM system on October 12, 2023.

William P. Ramey, III
William P. Ramey, III